SERVICE DATA
FILE NO. 170-058

TOSHIBA

STEREO AMPLIFIER

SB-230

SPECIFICATIONS

Continuous Power Output	
1 kHz (Both channels driven):	35W x 2 8 ohm 40W x 2 4 ohm
Total Harmonic Distortion	
20 ~ 20 kHz Rated Power:	0.2%
1 Watt Power:	0.08%
Intermodulation Distortion	
Rated Power:	0.2%
1 Watt Power:	0.08%
Damping Factor:	25
Power Band Width (IHF):	0.2% (10 Hz ~ 30 kHz)
Load Impedance:	4 ~ 16 ohm
Input Sensitivity/ Impedance:	PHONO 2.5 mV 47K ohm TUNER 150 mV 47K ohm TAPE 150 mV 47K ohm
Output Level:	TAPE/REC 150 mV
PHONO Overload:	200 mV 0.2%

Frequency Response	
TUNER:	±2 dB (10 Hz ~ 50 kHz)
PHONO: (RIAA equalization):	±0.5 dB (30 Hz ~ 15 kHz)
Tone Control BASS:	±8 dB (100 Hz)
TREBLE:	±8 dB (10 kHz)
Loudness Control:	+8 dB (100 Hz)
S/N (IHF A Network)	
PHONO:	72 dB
TUNER/TAPE:	92 dB
MIC Input Sensitivity/ Impedance:	2.0 mV 47K ohm
General	
Power Supply:	AC 220V 50 Hz or AC 240V 50 Hz
Power Consumption:	270 watts
Weight:	5.8 kg
Dimensions (W x H x D)	420 x 146 x 257 (mm)

1. OPERATING CONTROLS

FRONT VIEW

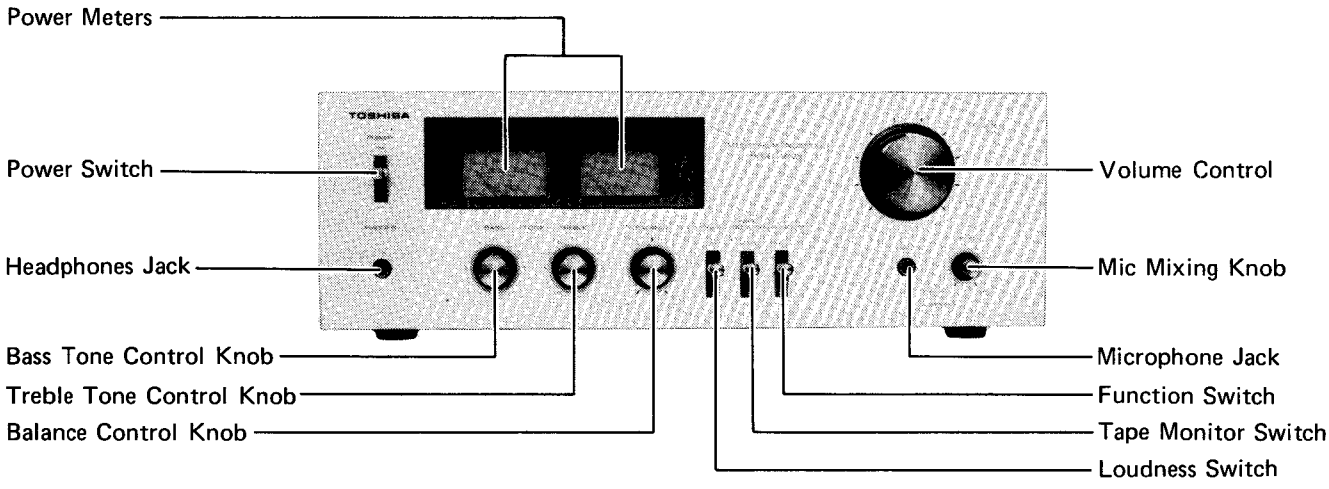

Figure 1.

REAR VIEW

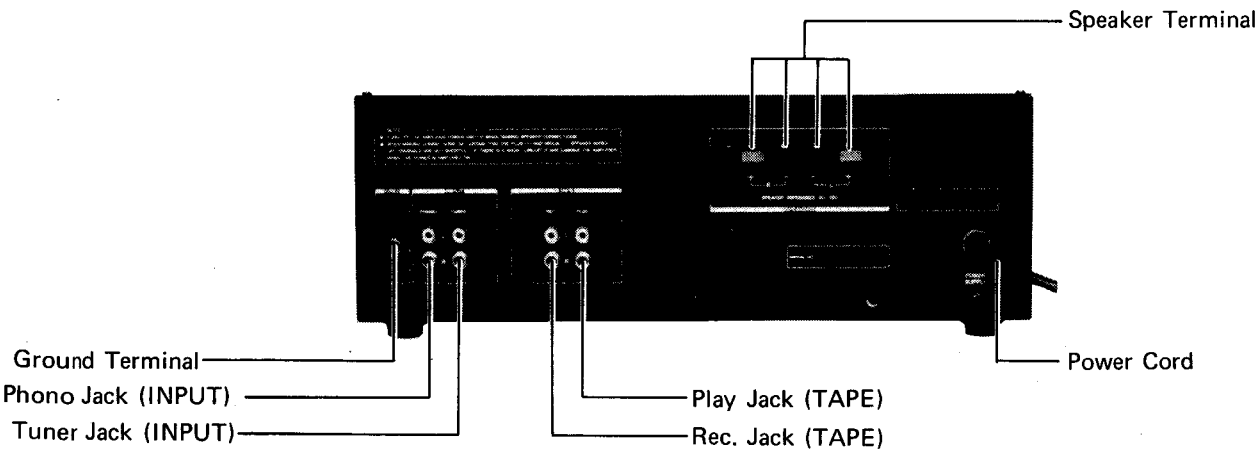

Figure 2.

2. DISASSEMBLY INSTRUCTIONS

TOP COVER REMOVAL

Remove four screws ①. See figure 3.

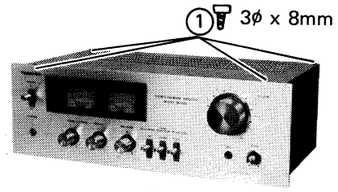

Figure 3.

BOTTOM PLATE REMOVAL

Remove four legs ②. See figure 4.
Remove three screws ③. See figure 4.

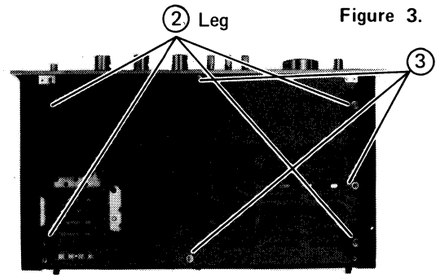

Figure 4.

FRONT PANEL REMOVAL

Remove the Top Cover and Bottom Cover. See figure 3 and 4.
Remove Knob ④. See figure 5.
Remove two screws ⑤. See figure 5.

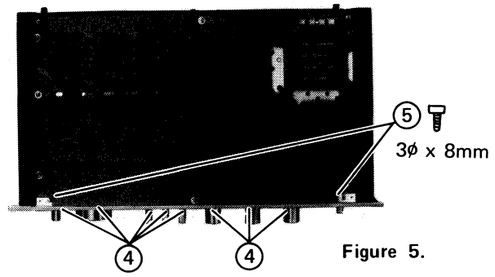

Figure 5.

3. ADJUSTMENTS

■ **IDLE POWER ADJUSTMENT**

1. Left Channel Check
   Connect ⊖ plug of DC voltmeter (DC sensibility 20mV or more) to terminal Ⓐ shown in figure right and ⊕ plug to terminal Ⓑ. Read voltage on the voltmeter.
   * The voltage must be kept within 3mV ⊖ 10mV.
2. Right Channel Check
   Connect ⊖ plug of voltmeter of the same sensibility to terminal Ⓓ and ⊕ plug to terminal Ⓒ. Read voltage on the voltmeter.
   * The voltage must be kept within 3mV ⊖ 10mV.
   Note: The main variable registor should be set to MIN position.
   * Read the voltage in 40 seconds after the power switch is turned ON.

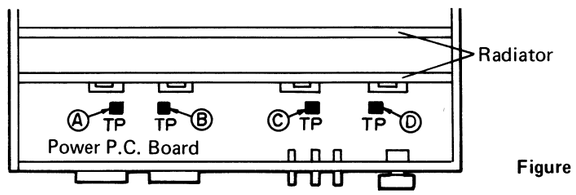

Figure 6.

■ **POWER METER DEFLECTION ADJUSTMENT**

1. Apply 1 kHz signal to both of left and right channels and adjust the power meter deflection for 0.3W.
2. Adjust semi-fixed registor VR81 to set power meter deflection in right channel for 0.3W.

4. BLOCK DIAGRAM

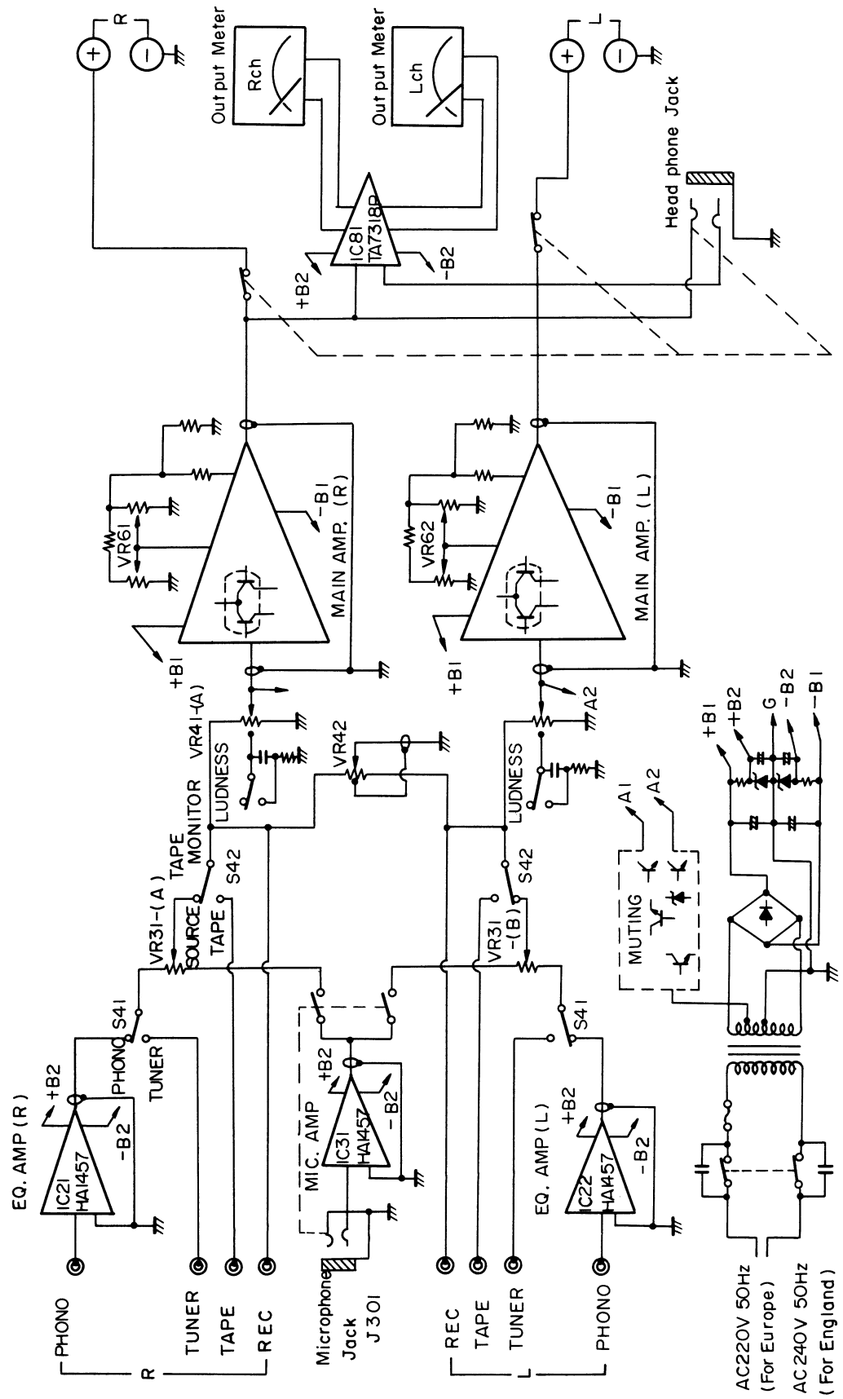

Figure 7.

5. ELECTRICAL PARTS LOCATIONS

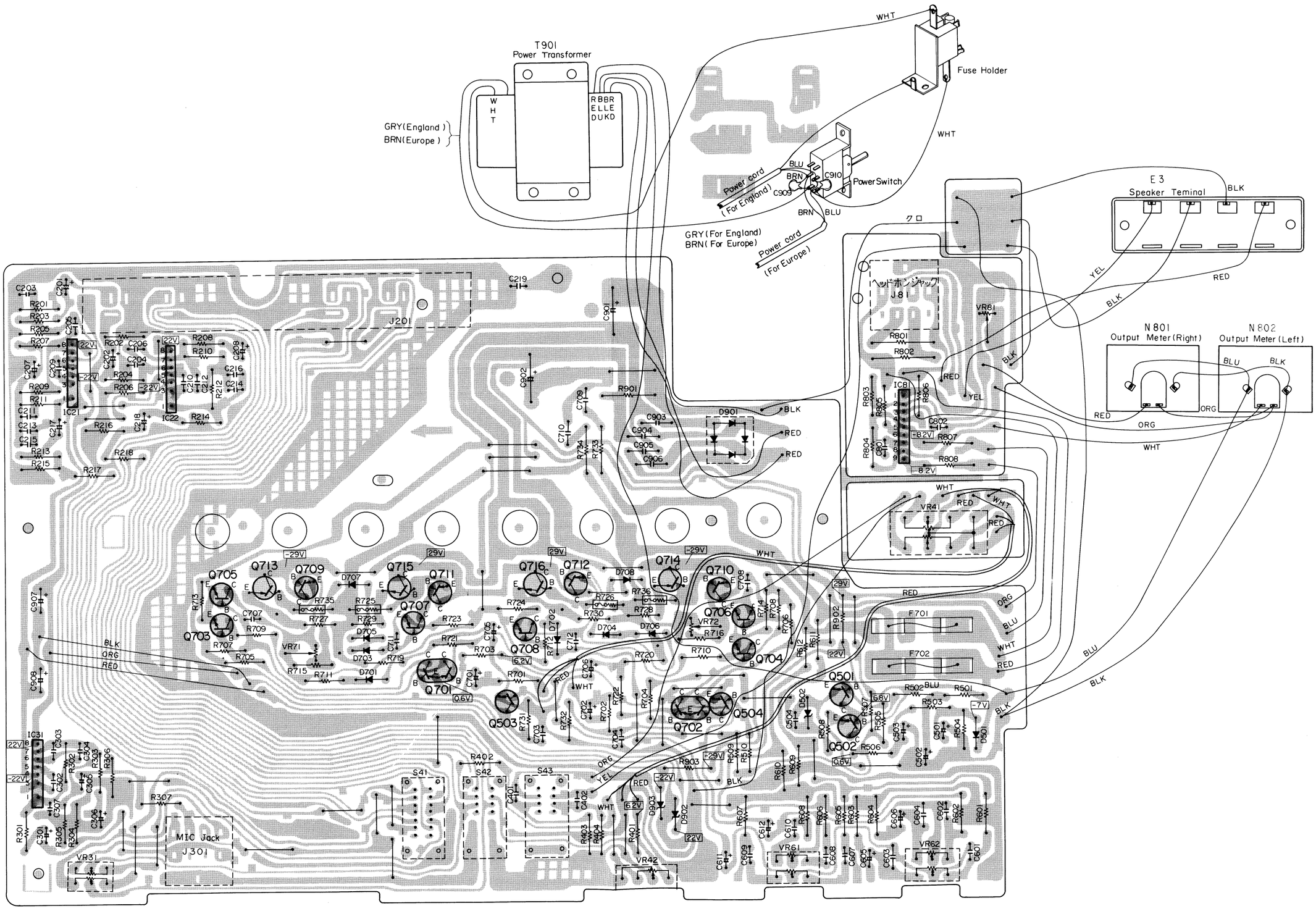

Figure 8.

6. SCHEMATIC DIAGRAM

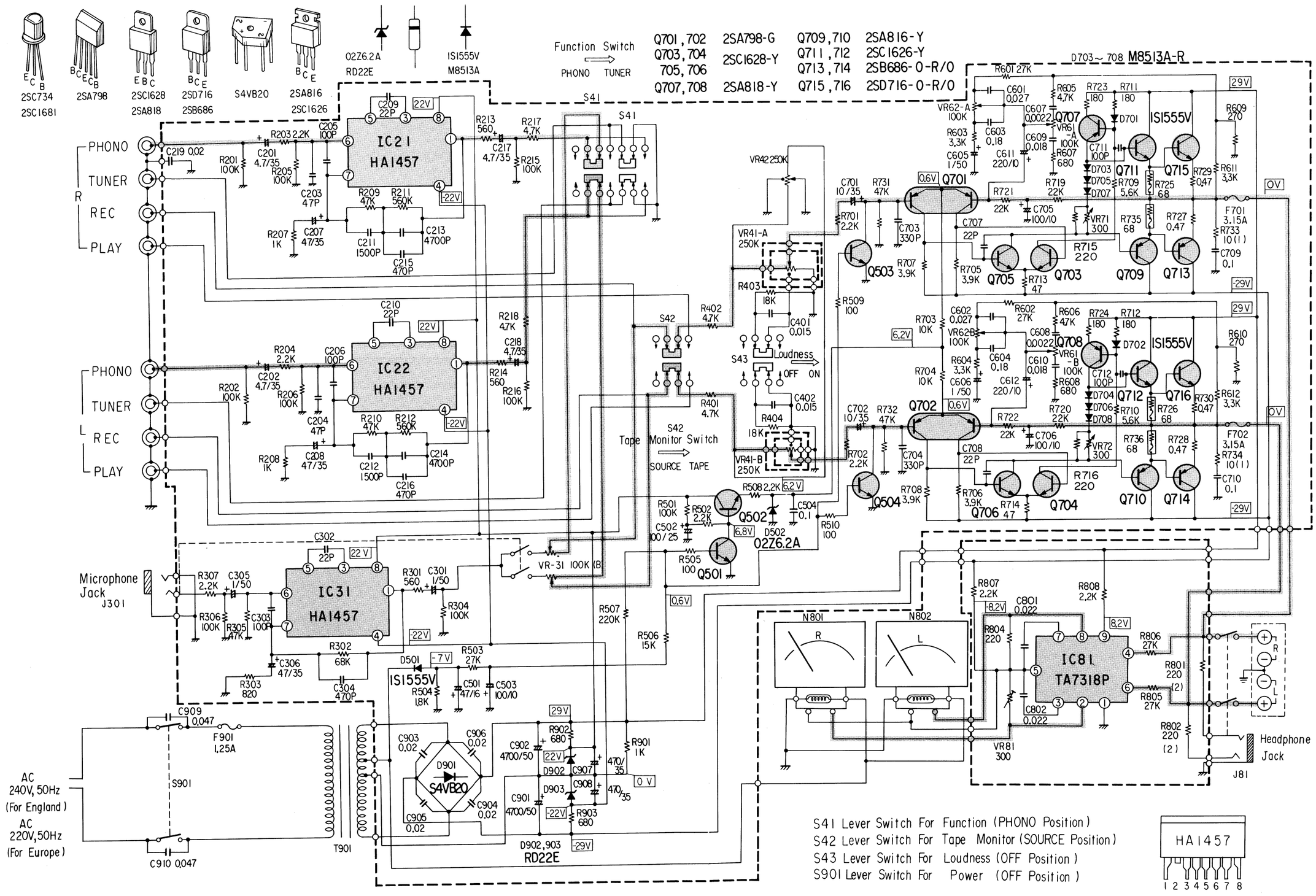

Figure 9.

7. CABINET PARTS LOCATIONS

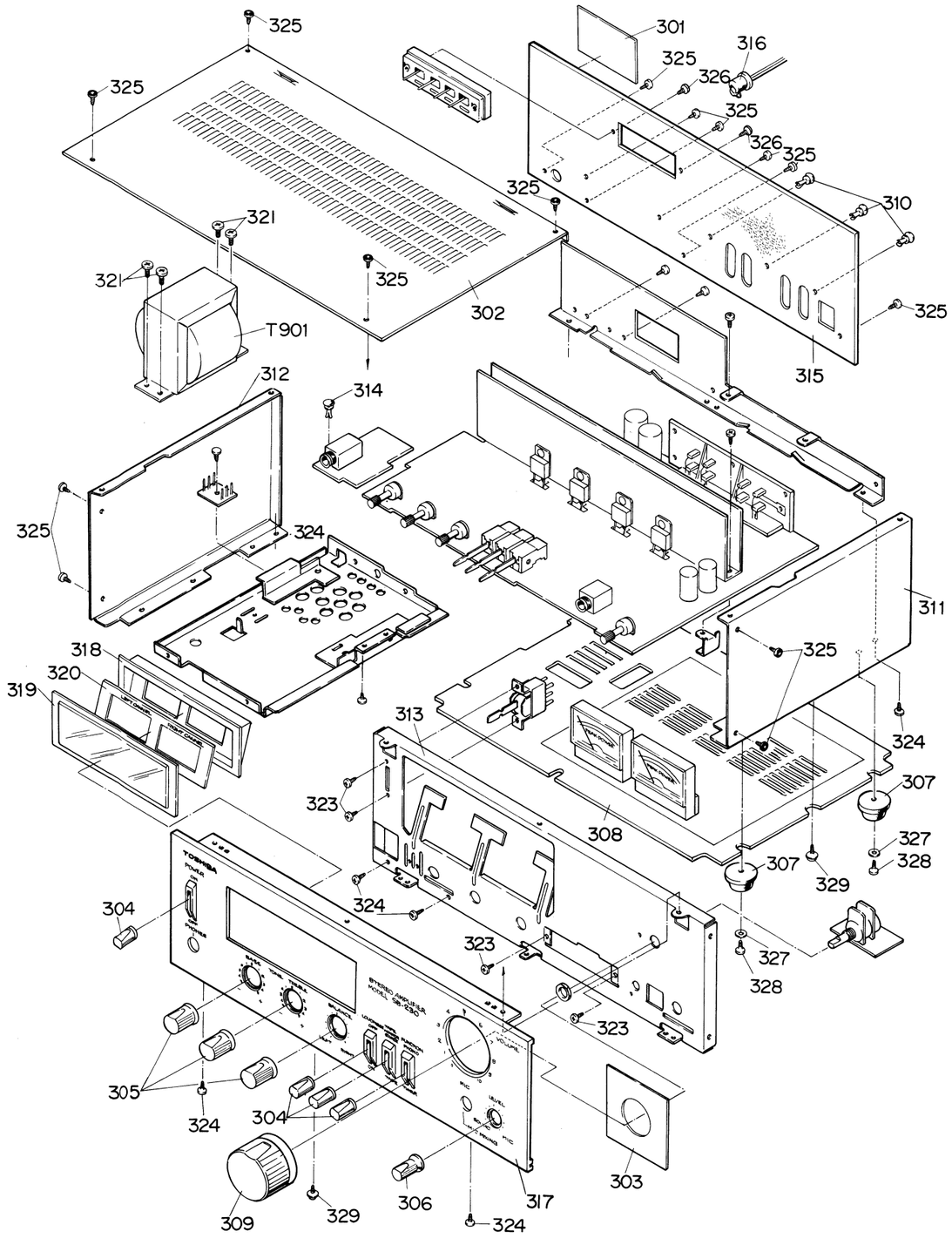

Figure 10.

8. PARTS LIST

Symbol No.	Part No.	Description
TRANSISTORS, DIODE AND IC'S		
Q501		Transistor, 2SC734-Y
Q502		Transistor, 2SC734-Y
Q503		Transistor, 2SC1681-BL.JA
Q504		Transistor, 2SC1681-BL.JA
Q701, 702	22114468	Transistor, 2SA798-G-DU
Q703, 704		Transistor, 2SC1628-Y.JA
Q705, 706		Transistor, 2SC1628-Y.JA
Q707, 708		Transistor, 2SA818-Y.JA
Q709, 710		Transistor, 2SA816-Y
Q711, 712		Transistor, 2SC1626-Y.JA
Q713, 714		Transistor, 2SB686-O-R/O
Q715, 716		Transistor, 2SD716-O-R/O
D501		Diode, 1S1555V
D502		Diode, 02Z6.2A
D701, 702		Diode, 1S1555V
D703, 704		Diode, M8513A-R
D705, 706		Diode, M8513A-R
D707, 708		Diode, M8513A-R
D901	22115422	Diode, S4VB20
D902	22115372	Diode, RD22E
D903	22115372	Diode, RD22E
IC21, 22	22114630	IC, HA1457
IC31	22114630	IC, HA1457
IC81		IC, TA7318P
ELECTRICAL PARTS		
T901	22223177	Transformer, Power (Europe)
	22223178	Transformer, Power (England)
S41	22195062	Switch, Lever, Function
S42	22195061	Switch, Lever, Tape Monitor
S43	22195060	Switch, Lever, Loudness
S901	22195148	Switch, Lever, Power
F701, 702	22144385	Fuse, 3.15A/250V
F901	22144357	Fuse, 1.25A/250V
J201	22163662	Jack, US8P
J301	22163651	Jack, Microphone
J81	22163651	Jack, Headphone
N801, 802	22104386	Meter, Output
E3	22162412	Terminal, Speaker
E4	22176286	Cord, Power (Europe)
	22176547	Cord, Power (England)
CAPACITORS K = ±10%, J = ±5%, M = ±20%, Z = –20 to +80%		
C201, 202	22440052	Electrolytic, 4.7mfd, 35V
C203, 204	22362470	Ceramic, 47pF, 50V, K
C205, 206	22349101	Ceramic, 100pF, 50V, K
C207, 208	22447470	Electrolytic, 47mfd, 35V
C209, 210	22362220	Ceramic, 22pF, 50V, K

Symbol No.	Part No.	Description
C211, 212	22371152	Mylar, 1500pF, 50V, J
C213, 214	22371472	Mylar, 4700pF, 50V, J
C215, 216	22349471	Ceramic, 470pF, 50V, K
C217, 218	22447479	Electrolytic, 4.7mfd, 35V
C219	22342223	Ceramic, 0.02mfd, 50V, Z
C301	22448109	Electrolytic, 1mfd, 50V
C302	22362220	Ceramic, 22pF, 50V, K
C303	22349101	Ceramic, 100pF, 50V, K
C304	22349471	Ceramic, 470pF, 50V, K
C305	22448109	Electrolytic, 1mfd, 50V
C306	22447470	Electrolytic, 47mfd, 35V
C401, 402	22372153	Mylar, 0.015mfd, 50V, K
C501	22446101	Electrolytic, 100mfd, 25V
C502	22445470	Electrolytic, 47mfd, 16V
C503	22443101	Electrolytic, 100mfd, 10V
C504	22373104	Mylar, 0.1mfd, 50V, M
C601, 602	22372273	Mylar, 0.027mfd, 50V, K
C603, 604	22372184	Mylar, 0.18mfd, 50V, K
C605, 606	22448109	Electrolytic, 1mfd, 50V
C607, 608	22372222	Mylar, 0.0022mfd, 50V, K
C609, 610	22372183	Mylar, 0.018mfd, 50V, K
C611, 612	22443221	Electrolytic, 220mfd, 10V
C701, 702	22447100	Electrolytic, 10mfd, 35V
C703, 704	22349331	Ceramic, 330pF, 50V, K
C705, 706	22443101	Electrolytic, 100mfd, 10V
C707, 708	22361220	Ceramic, 22pF, 50V, J
C709, 710	22373104	Mylar, 0.1mfd, 50V, M
C711, 712	22349101	Ceramic, 100pF, 50V, K
C801, 802	22372223	Mylar, 0.022mfd, 50V, K
C901	22440210	Electrolytic, 4700mfd, 50V
C902	22440210	Electrolytic, 4700mfd, 50V
C903	22340032	Ceramic, 0.02mfd, 50V, Z
C904	22340032	Ceramic, 0.02mfd, 50V, Z
C905	22340032	Ceramic, 0.02mfd, 50V, Z
C906	22340032	Ceramic, 0.02mfd, 50V, Z
C907	22447471	Electrolytic, 470mfd, 35V
C908	22447471	Electrolytic, 470mfd, 35V
C909	22340090	Ceramic, 0.0047mfd, 250V, Z
C910	22340090	Ceramic, 0.0047mfd, 250V, Z
RESISTORS All resistors are 1/4W, 5%, carbon film unless otherwise noted. K = ±10%		
R201, 202	22545104	100K ohm
R203, 204	22545222	2.2K ohm
R205, 206	22545104	100K ohm
R207, 208	22545102	1K ohm
R209, 210	22545473	47K ohm
R211, 212	22545564	560K ohm
R213, 214	22545561	560 ohm
R215, 216	22545104	100K ohm
R217, 218	22545472	4.7K ohm

Symbol No.	Part No.	Description
R301	22545561	560 ohm
R302	22545683	68K ohm
R303	22545821	820 ohm
R304	22545104	100K ohm
R305	22545473	47K ohm
R306	22545104	100K ohm
R307	22545222	2.2K ohm
R401	22545472	4.7K ohm
R402	22545472	4.7K ohm
R403	22545183	18K ohm
R404	22545183	18K ohm
R501	22545104	100K ohm
R502	22545222	2.2K ohm
R503	22545273	27K ohm
R504	22545182	1.8K ohm
R505	22545101	100 ohm
R506	22545153	15K ohm
R507	22545224	220K ohm
R508	22545222	2.2K ohm
R509	22545101	100 ohm
R510	22545101	100 ohm
R601, 602	22545273	27K ohm
R603, 604	22545332	3.3K ohm
R605, 606	22545472	4.7K ohm
R607, 608	22545681	680 ohm
R609, 610	22545271	270 ohm
R611, 612	22545332	3.3K ohm
R701, 702	22545222	2.2K ohm
R703, 704	22545103	10K ohm
R705, 706	22545392	3.9K ohm
R707, 708	22545392	3.9K ohm
R709, 710	22545562	5.6K ohm
R711, 712	22545181	180 ohm
R713, 714	22545470	47 ohm
R715, 716	22545221	220 ohm
R717, 718	22545680	68 ohm
R719, 720	22545223	22K ohm
R721, 722	22545223	22K ohm
R723, 724	22545181	180 ohm
R725, 726	22500150	68 ohm, 1/4W, ±5%, Fusible
R727, 728	22500189	0.47 ohm, 2W, K, Wire Wound
R729, 730	22500189	0.47 ohm, 2W, K, Wire Wound
R731, 732	22545473	47K ohm
R733, 734	22570250	10 ohm, 1W, ±5%, Metal Oxided Film
R735, 736	22500150	68 ohm, 1/4W, ±5%, Fusible
R801	22570311	220 ohm, 2W, ±5%, Metal Oxided Film
R802	22570311	220 ohm, 2W, ±5%, Metal Oxided Film
R804	22545221	220 ohm
R805	22545273	27K ohm
R806	22545273	27K ohm
R807	22563222	2.2K ohm, 1/2W, K, Fixed Composition
R808	22563222	2.2K ohm, 1/2W, K, Fixed Composition
R901	22570319	1K ohm, 2W, ±5%, Metal Oxided Film
R902	22570272	680 ohm, 1W, ±5%, Metal Oxided Film
R903	22570272	680 ohm, 1W, ±5%, Metal Oxided Film
VR31	22651468	100K ohm, Variable
VR41	22651466	250K ohm, Variable
VR42	22620403	250K ohm, Variable
VR61, 62	22651467	100K ohm, Variable
VR71, 72	22658393	300 ohm, Semi-fixed
VR81	22658393	300 ohm, Semi-fixed
CABINET PARTS		
301	22864187	Nameplate (England)
302	22711503	Cover, Top
303	22756445	Sheet, Mask
304	22824227	Knob, Lever, Power/Function/ Tape Monitor/Loudness
305	22826180	Knob, Level, Balance/Bass/Treble
306	22826181	Knob, Mic Mixing
307	22828031	Foot
308	22852156	Plate, Bottom
309	22824241	Knob Ass'y, Volume
310	22705030	Rivet, Plastic, 3¢ x 8mm
311	22711535	Plate, Side (Right)
312	22711536	Plate, Side (Left)
314	22705022	Rivet, Plastic, 3¢ x 5.5mm
315	22852163	Plate, Jack
316	25845528	Bush, Nylon (Europe)
	22845556	Bush, Nylon (England)
317	22821383	Panel Ass'y
318	22831511	Retainer, Meter
319	22837311	Cover, Meter
320	22843573	Decoration, Meter
321	22707185	Screw, 4¢ x 8mm
ACCESSORY		
	20951376	Owner's Manual

MANUFACTURED BY
TOKYO SHIBAURA ELECTRIC CO., LTD.
2-1, GINZA 5-CHOME, CHUO-KU, TOKYO 104, JAPAN
CABLE:TOSHIBAGNZ TOKYO, TELEX NO.: J24681, J24682, J24683

PRINTED IN JAPAN 22955403 Mar., 1978